

REMARKS

Rejections

Rejection for Double Patenting

Claims 1-38

Claims 1-38 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,208,971 in light of U.S. Patent No. 5,860,063 to Gorin. Because the pending claims also stand rejected under 35 U.S.C. § 103, Applicant will submit a terminal disclaimer upon notification that the §103 rejections have been withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1-6, 12-14, 16-24 and 31-38

Claims 1-6, 12-14, 16-24 and 31-38 stand rejected under 35 U.S.C. § 103(a) as being obvious over Gorin in view of U.S. Patent No. 6,317,707 to Bangalore et al. Claims 3, 4, 22 and 23 have been cancelled. Bangalore qualifies as prior art only under 35 U.S.C. § 102(e) because it issued after Applicant's filing date. Applicant does not admit that Bangalore is prior art and reserves the right to swear behind the reference at a later date. Nonetheless, Applicant respectfully submits that the combination is improperly motivated and furthermore does not teach each and every element of the invention as claimed in claims 1, 2, 5, 6, 12-14, 16-21, 24 and 31-38.

Gorin discloses recognizing input speech by comparing the input speech with pre-determined meaningful phrase clusters. The phrase clusters are created from a training corpus of spoken words based on the semantics of the words in the phrase.

Bangalore discloses building a linguistic model based on grammar syntactical concepts present in a training corpus of spoken words. Words and/or phrases are represented as feature vectors and clustered based on distances between the corresponding feature vectors.

Applicant respectfully submits that the feature vectors disclosed in Bangalore are known within the art as representing *syntactic* not semantic attributes of speech. Gorin does not teach or suggest that the addition of syntactic-based clustering as taught by Bangalore would improve his semantic-based clustering system. Nor does Bangalore

teach or suggest any advantage in adding his syntactic-based clustering to a semantic-based clustering system as taught by Gorin. Therefore, the Examiner's stated motivation for the combination is not supported by the references themselves. Because the Examiner has provided no further references to support the combination of semantic-based and syntactic-based clustering, the combination of Gorin and Bangalore is improper.

Moreover, the combination does not teach or suggest Applicant's claimed vector representation in a semantic space. The Examiner admits that Gorin does not disclose this claim limitation but is relying on Bangalore as doing so. However, Bangalore discloses that feature vectors are within a frequency space, not a semantic space. (Bangalore, col. 1, lines 27-32). Further, Bangalore is directed to syntactic-based clustering, and thus Bangalore cannot be properly interpreted as teaching or suggesting vector representation in semantic space as claimed.

Furthermore, Applicant has incorporated the limitations of original dependent claims 3, 4, 22 and 23 into the independent claims to clarify that the claimed word agglomeration replaces a sequence of words with an associated n -tuple sequence. The n -tuple sequence is made up of all the word strings of length n that appear in the original sequence of words. The word strings are further claimed as being consecutive words within the original sequence of words. Applicant's Specification provides further discussion of word agglomeration at page 15, lines 1-24. In the Office Action mailed July 14, 2004, the Examiner equated Applicant's claimed n -tuple sequence with Gorin's clusters of similar phrases. Gorin discloses that the clusters are formed from test/training speech utterances (Gorin, col. 6, lines 53-66; Figures 4-5). In Gorin, when input speech is received, the input speech is searched for matching phrase clusters. Thus, Gorin's clusters are formed from test utterances, not the input speech. Furthermore, Gorin's clusters are groups of similar (but nonetheless different) phrases, as admitted to by the Examiner. Gorin explicitly provides an example of this with respect to Figure 6, which shows a cluster including the distinct phrases "make a collect call", "place a collect call", "make collect call" and "make a collect phone call." (Goring, col. 8, lines 1-5). Applicant's claims recite that word agglomeration replaces a given sequence of words with strings of consecutive words within the sequence of words. Thus, each of the strings are found within the given sequence of words. Gorin's clusters are not derivations of a

single phrase, but rather they are groupings of similar, but distinct, phrases. Accordingly, Gorin's clusters are not equivalent to Applicant's claimed n -tuple sequence.

Thus, Gorin cannot be properly interpreted as teaching or suggesting word agglomeration as claimed. Similarly, Bangalore cannot be properly interpreted as teaching or suggesting word agglomeration as claimed because Bangalore uses the syntactic context of a word sequence to cluster words.

Therefore, the combination cannot render obvious Applicant's invention as claimed in claims 1, 2, 5, 6, 12-14, 16-21, 24 and 31-38, and Applicant respectfully requests the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination of Gorin and Bangalore

Claims 7-11 and 25-30

Claims 7-11 and 25-30 stand rejected under 25 U.S.C. § 103(a) over the base combination of Gorin and Bangalore in view of U.S. Patent No. 6,631,346 to Karaorman et al. Karaorman qualifies as prior art only under 35 U.S.C. § 102(e) because it issued after Applicant's filing date. Applicant does not admit that Karaorman is prior art and reserves the right to swear behind the reference at a later date. Nonetheless, Applicant respectfully submits that the combination does not teach each and every element of the invention as claimed in claims 7-11 and 25-30.

Claims 7-11 and 25-30 depend from claims 1 and 20 respectively. Because the base combination of Gorin and Bangalore does not render obvious Applicant's invention as claimed in claims 1 and 20, Karaorman must teach at least those claim limitations missing in the base combination to establish a *prima facie* case of obviousness for claims 7-11 and 25-30. However, Karaorman is directed to parsing input speech and tagging words in the input speech based on a scoring scheme. Karaorman contains no disclosure directed toward word agglomeration or vector representation of a sequence of words in semantic space as claimed in claims 1 and 20.

Therefore, the combination of Gorin, Bangalore and Karaorman cannot be properly interpreted as disclosing each and every limitation of Applicant's invention as claimed in claims 7-11 and 25-30, and Applicant respectfully requests the withdrawal of the rejection of claims 7-11 and 25-30 under 35 U.S.C. § 103(a) over the combination.

Claim 15

Claim 15 stands rejected under 25 U.S.C. § 103(a) over the base combination of Gorin and Bangalore in view of U.S. Patent No. 5,345,536 to Hoshimi et al. and U.S. Patent No. 5,943,607 to Prager. Applicant respectfully submits that the combination does not teach each and every element of the invention as claimed in claim 15.

Claim 15 depends from claim 1. Because the base combination of Gorin and Bangalore does not render obvious Applicant's invention as claimed in claim 1, either Hoshimi or Prager must teach at least those claim limitations missing in the base combination to establish a *prima facie* case of obviousness for claim 15. Hoshimi is directed to recognizing input speech based on similarities between the input speech and pre-determined phoneme patterns of training speech. Prager categorizes objects in input speech using feature vectors. Therefore, neither Hoshimi nor Prager teach or suggest word agglomeration or vector representation of a sequence of words in semantic space as claimed in claim 1, and thus the combination of Gorin, Bangalore, Hoshimi and Prager cannot be properly interpreted as disclosing each and every limitation of Applicant's invention as claimed in claim 15.

Accordingly Applicant respectfully requests the withdrawal of the rejection of claim 15 under 35 U.S.C. § 103(a) over the combination of Gorin, Bangalore, Hoshimi and Prager.

SUMMARY

Claims 1, 2, 5-21 and 24-38 are currently pending. In view of the foregoing amendments and remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Applicant respectfully requests reconsideration of the application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Scott Heilesen at (408) 720-8300 x301.

Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any

charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

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